

1. New Cases
2. Hospitalizations and Fatalities (50% increase in hospitalizations vs. a week ago)
3. Schools and Childcare Centers
4. Testing
5. Weekly Town Risk and Statewide Cluster Analyses
6. Vaccination (Began in long term care facilities this week)
7. COVID Mutation and Changes in Transmissibility/Virulence/Other

1. New Cases

Daily new case numbers in Barnstable County remain high. Our **7-day average cases per 100,000 population per day** is 37/100K, with 7-day **average cases per day** of 78 and has an unclear trend. Yesterday afternoon the DPH reported **64** new case for Barnstable County. On Saturday 12/26 positive test results received on both 12/25 and 12/26 were reported (203 cases).

Barnstable County's 3-day new case tally has set another new record, 311 cases, between 12/14 and 12/26.

Nantucket's 7-day average cases per 100,000 population continues to fall steadily (54/100K; avg. 6 cases per day) and is 1/4 the rates seen earlier this month (202/100K; avg. 23 new cases per day). However, **12** new cases were reported over the weekend for Nantucket, and an additional **9** cases have been reported this week.

Martha's Vineyard's 7-day new case rate per 100,000 also continues a downward trend, dropping to 29/100K (avg. 5 cases per day) which is down from 41/100K (avg. 7 cases/day) during the past 3 weeks. Over the weekend the DPH reported **12** new confirmed cases for MV, and an additional **8** cases have been reported this week.

During the 14-day period from 12/6/20 to 12/19/20 **Barnstable County** added 997 confirmed cases, with a **test positivity rate of 4.85%**--slightly higher than the prior two-week period. During that same two-week period **Nantucket and Martha's Vineyard** jointly added 333 confirmed cases, with a test positivity rate of **6.95%**--significantly lower than the prior two-week period. **Martha's Vineyard and Nantucket's combined percent positivity figures remain higher than the statewide positivity rate of 6.14% during the same period.**

Regionally case levels continue to increase, without exception. Travel restrictions among all states in the Northeast Corridor have been mutually re-imposed. Per the DPH, Hawaii remains the only "low-risk state" state without travel restrictions.

2. Hospitalizations and Fatalities

Hospitalizations and acuity of illness have increased very significantly since the second week of November and remain elevated. Cape Cod Hospital and Falmouth Hospital have **suspended visitation** of inpatients except under very limited circumstances (end-of-life, etc.) and have **stopped non-essential surgeries and other elective procedures.**

As of yesterday (3pm), the DPH's reporting shows that there were **59 COVID patients in hospital**, 7 of which were in the ICU --a 50% increase over the 39 patients in hospital a week ago.

Fatalities from COVID are increasing in Barnstable County. Three additional fatalities were reported on Christmas Eve, with another two over the weekend, and one on Monday. The total is now **229** (see chart below).

Hospitalizations, Last Report:		Not Cumulative		Cumulative		
		Hospital Beds Occupied (Last Report)	ICU Beds Occupied (Last Report)	Barnstable County Cases (Confirmed)	Barnstable County Deaths	3-Day Avg. of Persons in Hosp. (Ward + ICU)
12/29/2020	Cape Cod Hospital	41	5			
	Falmouth Hospital	11	2			
		52	7	5,181	229	43.0

3. Schools and Childcare Centers

School districts are staying vigilant and reacting well to new cases. Several school districts (Cape and Islands) are dealing with increased confirmed and probable cases and the necessary knock-on effects of information transfer and follow-up. Several school districts on the Cape and Islands have moved to 100% remote learning.

For the 2020-2021 school year the DPH has mandated that all school children be vaccinated for seasonal influenza. This week the DPH extended the deadline for doing so from 12/31/20 to 2/28/21.

During Phase 2 of the national and state vaccination rollout **childcare center** staff are to be vaccinated alongside school staff.

4. Testing

Additional testing locations in Barnstable County for both symptomatic and asymptomatic persons remain open in **Falmouth** at the Fairgrounds and in **Hyannis** at the Melody Tent. Daily testing capacity is 50 at the Falmouth site and 350 at the Hyannis site. Neither site is open daily and persons must call ahead for an appointment. Details: <https://www.capecodhealth.org/medical-services/infectious-disease/coronavirus/covid-19-testing-process/>.

Last week additional testing by **Outer Cape Community Health Services** began and will be held at its 3 locations in **Wellfleet, Harwich Port, and Provincetown** (<https://outercape.org/2020/12/23/outer-cape-health-services-to-offer-covid-19-asymptomatic-testing-beginning-december-23/>). These sites may not open be daily and persons must call ahead for an appointment.

Eligibility criteria for the testing include residency in Barnstable County. Testing will be done by appointment only. Tests cost \$75, \$110 for travel-related tests, and no one will be turned away if unable to pay for a test.

DPH-mandated **routine testing** in skilled nursing facilities/long term care settings (SNF/LTC) continues. This provides critical surveillance and allows these facilities to stay ahead of asymptomatic spread amongst staff and residents. Routine testing in SNF/LTC settings has increased to weekly for staff.

In addition, the State's **BinaxNOW rapid testing program** (already available to **schools**) has been extended to visitors of **nursing homes** and rest home residents (LTC settings) to allow visitation of residents while limiting the risk of infection from visitors. DPH has published guidance on this. The program has also been extended to **childcare centers and homeless shelters** and further information will be forthcoming.

5. Weekly Town Risk and Statewide Cluster Analyses

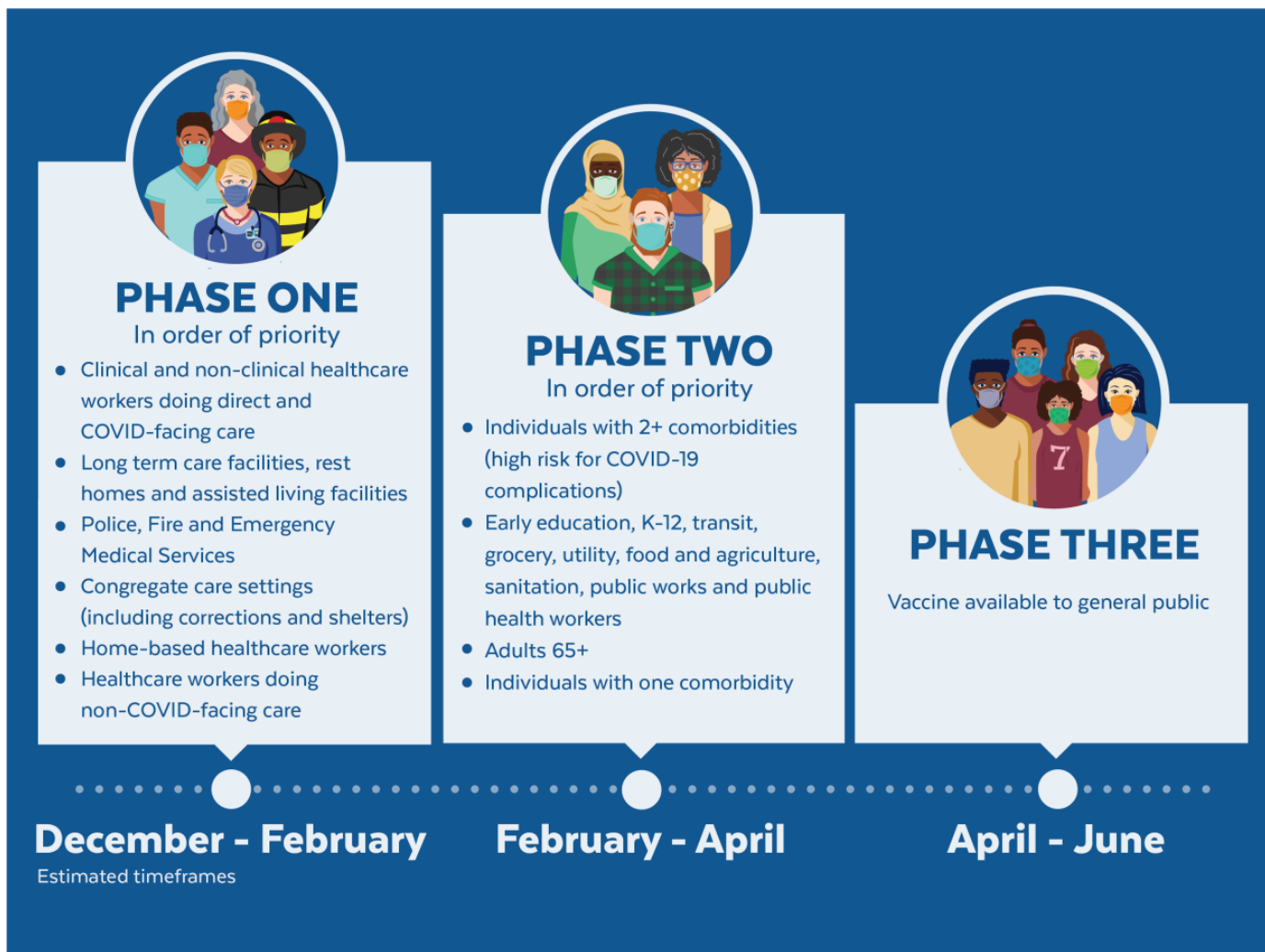
Among the charts below is DPH's weekly analysis of new and active **case clusters**. Note that these data were published last Thursday (12/24/20) and cover the period 11/22 to 12/19. The table presents the number of cases by type of location, statewide. **I have sorted the DPH data to show the listing of cluster settings by greatest number of new confirmed cases.** The top 10 are listed here; the full table can be found below.

Active COVID Clusters by Exposure Setting Type for the Period 11/22/20 to 12/19/20 (as of 12/24/20)										
Source: https://www.mass.gov/info-details/covid-19-response-reporting . Tabulation: V. Harik, Barnstable County DHS										
Sorted by Number of Cases in New Cluster Settings										
Rank	Exposure Setting	New Clusters			Ongoing Clusters			Total		
		(Identified 11/22/20 – 12/19/20)			(Cluster Identified Prior to 11/22 But Not Meeting Criteria for Closing)					
		Clusters	Confirmed Cases	Close Contacts	Clusters	Confirmed Cases	Close Contacts	Clusters	Confirmed Cases	Close Contacts
1	Household	18,163	46,534	—	8,302	4,657	—	26,465	51,191	—
2	Long Term Care Facilities	131	1,172	—	195	2,305	—	326	3,477	—
3	Child Care	146	434	604	142	89	244	288	523	848
4	Senior Living	51	381	32	59	278	178	110	659	210
5	Social Gatherings	52	317	78	37	5	16	89	322	94
6	Restaurants & Food Courts	31	249	57	49	18	20	80	267	77
7	24/7 Congregate Settings	39	180	47	67	112	52	106	292	99
8	Hospitals	19	154	21	27	192	61	46	346	82
9	K-12 Schools	36	150	290	55	61	67	91	211	357
10	Industrial Settings	23	137	57	59	145	50	82	282	107

In addition, the weekly **town risk table** for the Cape and Islands is included below. Again, these data were published last Thursday (12/24/20) and they cover the period 12/6 to 12/19. The towns of **Barnstable**, **Yarmouth**, and **Brewster** remain coded Red, indicating highest risk of community spread.

6. Vaccination

The **State COVID Vaccination Plan** for Phase 1 has been announced and conforms to the phases and prioritized populations identified by the CDC. In Phase 1 of the State Plan healthcare workers, older adults living in skilled nursing facilities/congregate care settings, police/fire/EMS, shelters/corrections, and other healthcare workers will be prioritized for vaccination as doses become available. **Childcare staff** will be eligible for vaccination alongside school staff in Phase 2. First shipments of the **Pfizer** vaccine have been to hospitals across the state for vaccination of their workers; **Moderna** vaccine has also been shipped to clinical care sites. The State has contracted with **CVS** and **Walgreens** to arrange vaccination of **older adults in SNFs/congregate care**. **Vaccinations in LTCs will begin this week on Cape Cod.**



7. COVID Mutation and Changes in Transmissibility/Virulence/Other

We note with concern **the emergence of a variant of the COVID-19 virus in the UK**, classified as B.1.1.7. Reports hold that B117 is 50% - 70% more contagious than our predominant variant now circulating (D614G). B117 has already been observed in several west European countries, and **is spreading globally, including in the US.**

Researchers are working to determine if B117 differs from D614G in terms of: **1.** How sick people become, **2.** If natural immunity is different following infection with D614G, and **3.** If immunity from vaccination differs since the vaccine was developed during the period that D614G has been predominant.

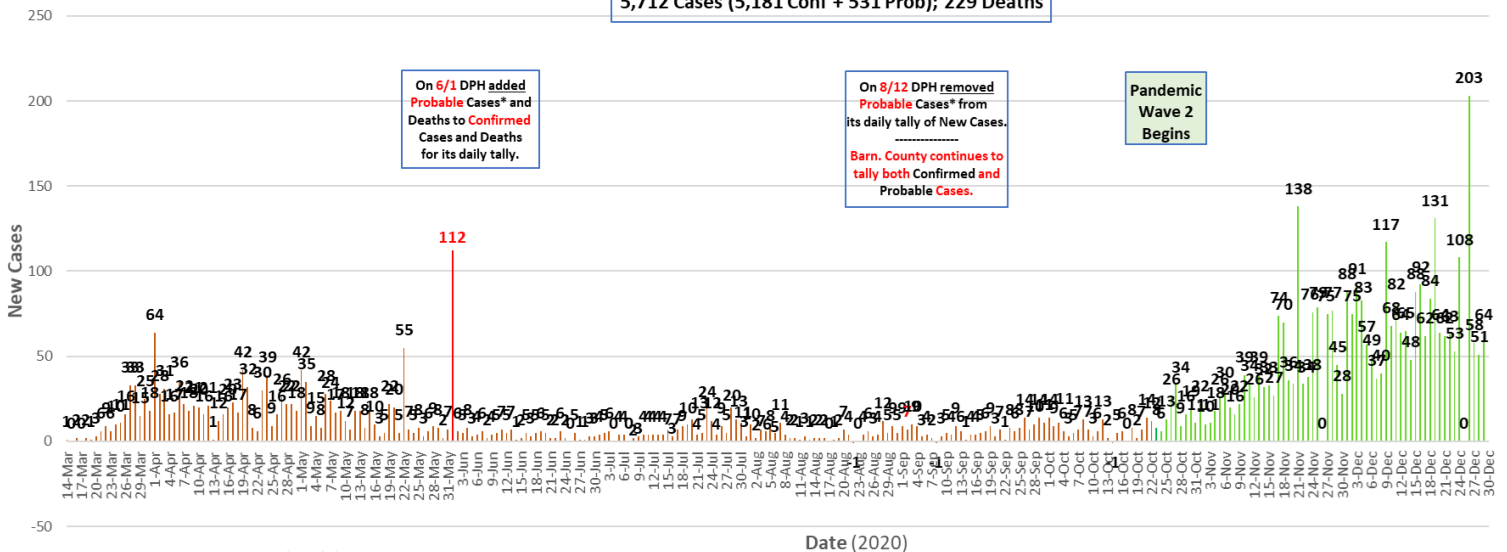
According to an article by Andrew Joseph from StatNews, "Coronaviruses evolve more slowly than viruses like flu, but they do pick up mutations as they spread. **SARS-CoV-2 has been adding one or two changes a month to its RNA genome since it emerged late last year in China**, and different versions of the virus have been continuously circulating throughout the course of the pandemic. **But this variant (B.1.1.7 or VUI-202012/01) showed up with at least 17 mutations**, according to one genetic analysis." (Source: https://www.statnews.com/2020/12/21/looming-questions-new-variant-coronavirus/?utm_source=STAT+Newsletters&utm_campaign=1a74bda2ca-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-1a74bda2ca-150158417).

See the charts below for additional information.

COVID-19 New Cases--Daily (Confirmed + Probable)

Barnstable County, 12/29/20 5:00 pm

5,712 Cases (5,181 Conf + 531 Prob); 229 Deaths

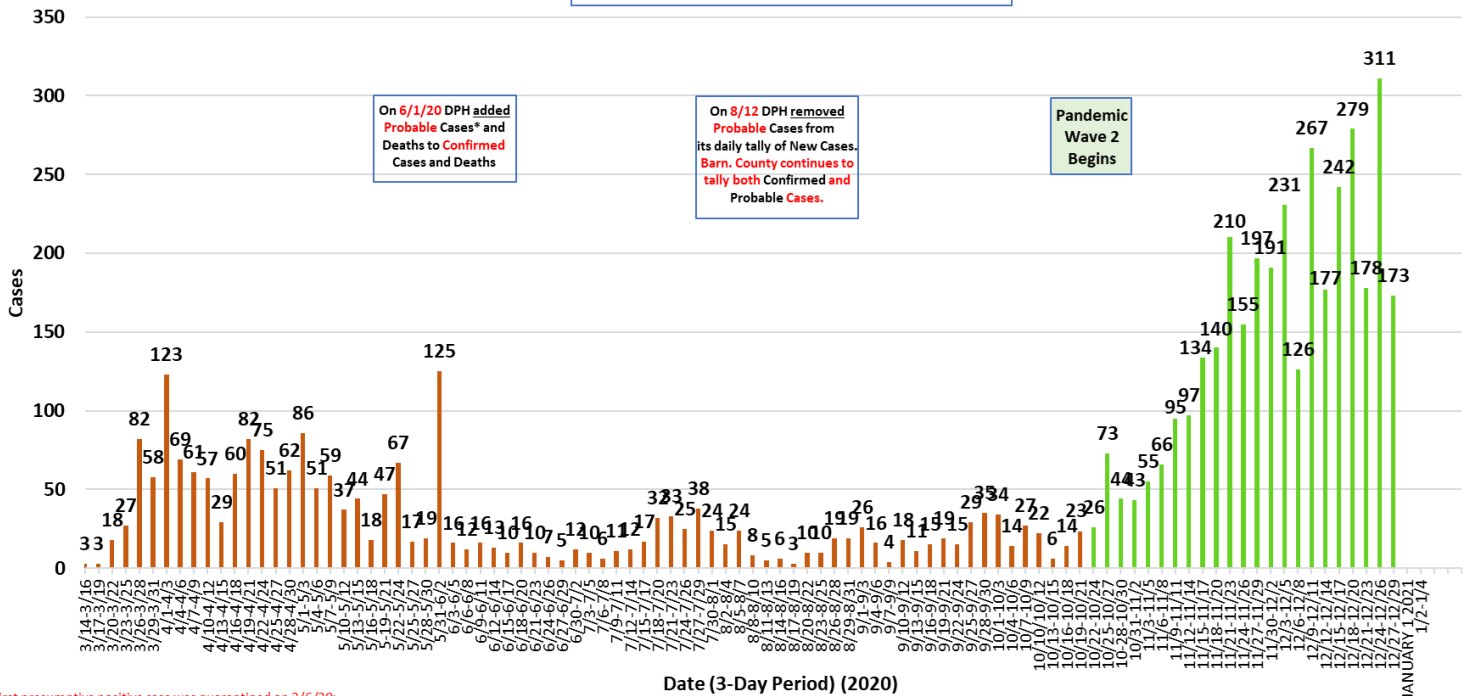


COVID-19 Epidemiological Curve--New Cases (Confirmed + Probable)

Barnstable County, as of 12/29/20 5:00 pm

(New Cases per 3-Day Period)

5,712 Cases (5,181 Conf + 531 Prob); 229 Deaths

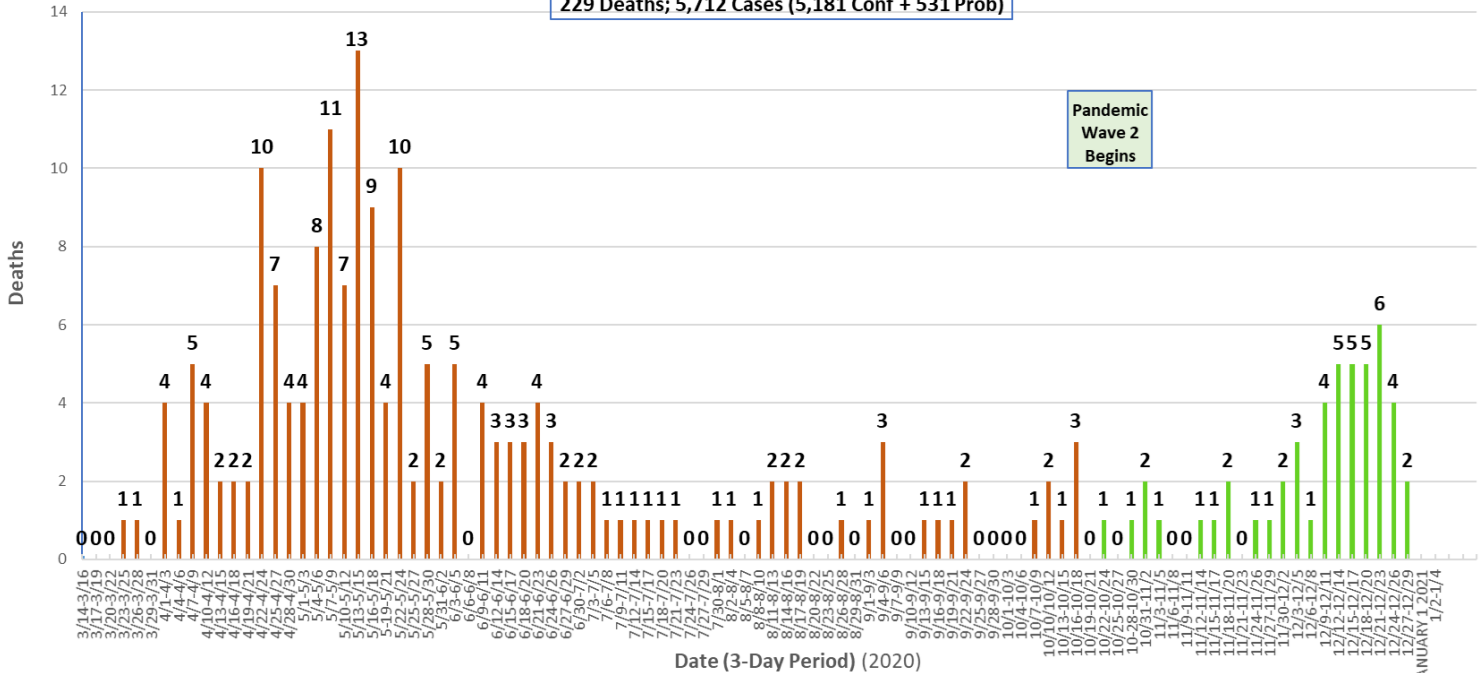


COVID-19 Epidemiological Curve--New Deaths (Confirmed + Probable)

Barnstable County, as of 12/29/20 5:00 pm

(New Deaths per 3-Day Period)

229 Deaths; 5,712 Cases (5,181 Conf + 531 Prob)

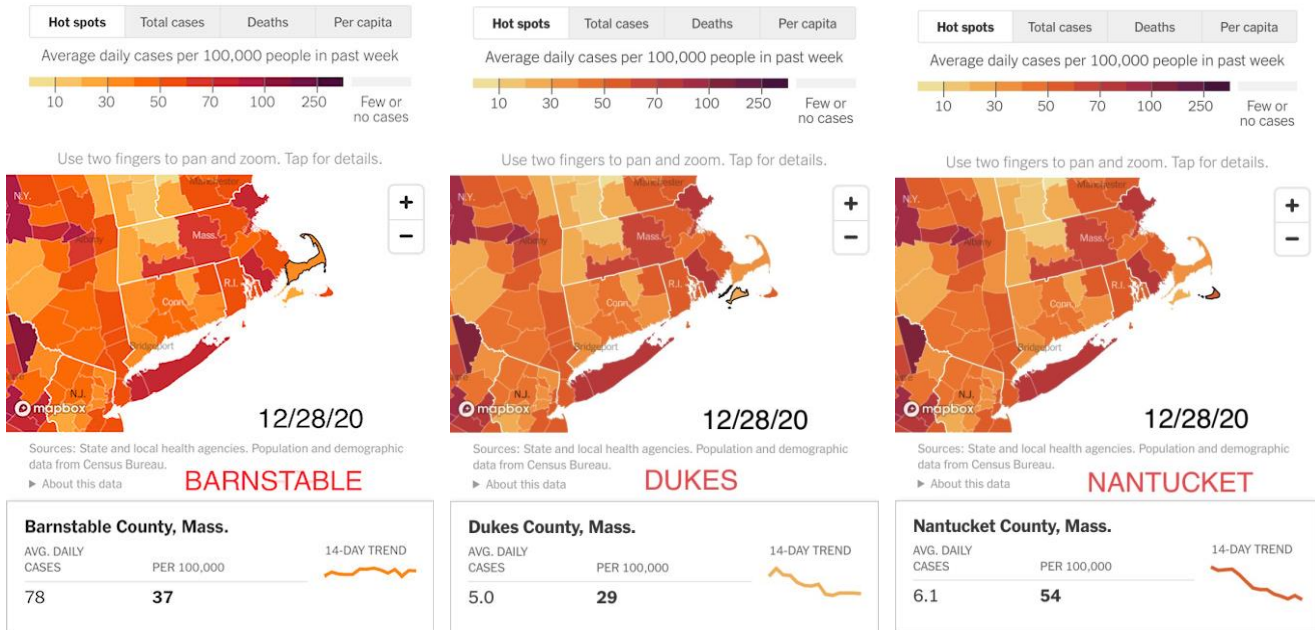


First presumptive positive case was quarantined on 3/6/20;

Incubation Period = 14 Days; Data presented in 3-day periods which equal ~1/4 of the Incubation Period

Source: V. Harik, BCDHS; Using data provided by the MA Department of Public Health

Source: NYTimes.com:



Barnstable County COVID-Related Hospital & ICU Beds Occupied, with Cases & Deaths

Source: V. Harik, Barn. County Dept of Human Services; Tabulation of MA DPH Data

WEEKLY: (On Tuesdays)		Not Cumulative		Cumulative		
Date Reported by DPH	Hospital	Hospital Beds Occupied	ICU Beds Occupied	Barnstable County Cases	Barnstable County Deaths	3-day Avg. of Persons in Hosp. (Ward + ICU)
4/21/2020	Cape Cod Hospital	27	6			
	Falmouth Hospital	19	7			
		46	13	672	22	59.0 (Estimated)
11/12/2020	Cape Cod Hospital	1	0			
	Falmouth Hospital	0	0			
		1	0	2,266	187	1.0
11/17/2020	Cape Cod Hospital	8	1			
	Falmouth Hospital	3	0			
		11	1	2,835	188	9.3
11/24/2020	Cape Cod Hospital	11	0			
	Falmouth Hospital	4	0			
		15	0	3,261	190	15.7
12/1/2020	Cape Cod Hospital	14	3			
	Falmouth Hospital	7	1			
		21	4	3,129	192	25.7
12/8/2020	Cape Cod Hospital	14	5			
	Falmouth Hospital	7	2			
		21	7	3,554	198	19.3
12/15/2020	Cape Cod Hospital	19	5			
	Falmouth Hospital	7	1			
		26	6	4,086	210	27.3
12/21/2020	Cape Cod Hospital	23	1			
	Falmouth Hospital	10	2			
		33	3	4,581	220	28.0
Hospitalizations, Last Report:		Not Cumulative		Cumulative		
		Hospital Beds Occupied (Last Report)	ICU Beds Occupied (Last Report)	Barnstable County Cases (Confirmed)	Barnstable County Deaths	3-Day Avg. of Persons in Hosp. (Ward + ICU)
12/29/2020	Cape Cod Hospital	41	5			
	Falmouth Hospital	11	2			
		52	7	5,181	229	43.0

MA DPH Data Dashboard, WEEKLY REPORT of 12/24/20 (for the Period 12/6/20 to 12/19/20)									
City/Town	(March 2020 to Present) Total Case Count	Case Count Last 14 Days	Average Daily Incidence Rate per 100K	Relative Change in Case Count	Total Tests	Total Tests Last 14 Days	Positive Tests Last 14 Days	Percent Positivity Last 14 Days	Change in Percent Positivity
Barnstable	1,531	288	45.9	Higher	36,454	4,914	315	6.41%	Higher
Bourne	493	106	36.0	Higher	20,204	2,580	115	4.46%	Higher
Brewster	187	31	22.3	Higher	8,298	1,157	34	2.94%	Higher
Chatham	76	19	23.3	Higher	4,692	623	21	3.37%	Higher
Dennis	248	47	25.7	Lower	9,365	1,243	53	4.26%	Lower
Eastham	46	8	12.4	Lower	2,716	254	9	3.54%	Lower
Falmouth	627	129	29.5	Higher	33,598	4,176	164	3.93%	Higher
Harwich	289	50	28.4	Lower	9,653	1,214	54	4.45%	Lower
Mashpee	250	56	25.7	Lower	13,116	1,729	72	4.16%	No Change
Orleans	49	10	12.7	Higher	3,478	376	10	2.66%	Higher
Provincetown	40	5	13.8	Higher	2,934	297	6	2.02%	Higher
Sandwich	274	59	20.0	Lower	14,873	1,586	61	3.85%	Higher
Truro	18	4	3.6	Lower	1,283	119	1	0.84%	Lower
Wellfleet	26	6	15.5	Lower	1,818	144	7	4.86%	Lower
Yarmouth	543	182	54.0	Higher	19,189	2,822	206	7.30%	Higher
Barnstable County	4,697	1,000	32.9	Higher	181,671	23,234	1,128	4.85%	Higher
Aquinnah	3	0	0	No Change	397	19	0	0%	No Change
Chilmark	6	1	9.4	No Change	2,500	164	1	0.61%	No Change
Edgartown	130	28	48.9	Lower	7,596	756	31	4.10%	Lower
Gosnold	5	0	0	No Change	112	0	0	0%	No Change
Oak Bluffs	103	34	46.6	Lower	5,002	589	35	5.94%	Lower
Tisbury	139	32	54.8	Higher	9,570	1,016	34	3.35%	Higher
West Tisbury	49	12	29.9	Lower	3,348	294	13	4.42%	Lower
Dukes County	440	108	*	Lower	28,525	2,838	114	4.02%	Lower
Nantucket County	683	226	141.4	Lower	14,702	2,170	234	10.78%	Lower
Dukes and Nantucket Counties	1,118	333	82.5	Lower	43,227	5,008	348	6.95%	Lower
State	322,652	61,603	63.2	Lower	10,399,569	1,170,158	71,906	6.14%	Higher
Data Source: MA DPH, 12/24/20 Weekly COVID Report (https://www.mass.gov/info-details/covid-19-response-reporting); Analysis: V. Harik BCDHS.									
Massachusetts COVID Testing Rates, As Applied to Barnstable County (Thru 12/19/20)									
Sources: Census.gov; MA DPH Weekly COVID Report, 12/24/20. Analysis: V. Harik, BCDHS									
				MA			Barnstable County		
Population Estimate (@ July 1, 2019)				6,892,503			212,990		
				Barnstable County % of MA Pop.			3.09%		
				Barn. County % of Total MA Tests			1.75%		
				Barn. County % of MA Tests, Past Two Weeks			1.99%		
				Barn. County % of MA Total Confirmed Cases			1.46%		
				Barn. County % of MA Confirmed Cases, Past Two Weeks			1.62%		
				MA % Positive Tests Last 14 Days			6.14%		
				Barnstable County % Positive Tests Last 14 Days			4.85%		

MA DPH Data Dashboard, WEEKLY REPORT of 12/23/20 (for the Period 12/6/20 to 12/19/20)

Data Source: MA DPH, 12/23/20 Weekly COVID Report (<https://www.mass.gov/info-details/covid-19-response-reporting>)

County	Total Case Count	Case Count (Last 14 Days)	Average Daily Incidence Rate per 100,000 (Last 14 days)	Relative Change in Case Counts ¹	Total Tests	Total Tests (Last 14 days)	Total Positive Tests (Last 14 days)	Percent Positivity (Last 14 days)	Change in Percent Positivity ²
Barnstable County	4,697	997	32.9	Higher	181,671	23,234	1,128	4.85%	Higher
Berkshire County	2,546	410	23.2	Lower	172,753	17,202	467	2.71%	Lower
Bristol County	30,567	6,160	77	Lower	622,922	71,117	7,210	10.14%	No Change
Dukes and Nantucket Counties	1,118	333	82.5	Lower	43,227	5,008	348	6.95%	Lower
Essex County	52,701	10,543	94.5	Lower	1,070,271	137,640	13,172	9.57%	Lower
Franklin County	1,153	329	33	Lower	90,809	9,348	374	4.00%	Lower
Hampden County	23,707	4,349	66	Lower	517,922	60,762	5,266	8.67%	Higher
Hampshire County	3,366	604	26.3	Lower	344,885	23,553	692	2.94%	Lower
Middlesex County	68,154	13,167	57.8	Lower	2,644,980	308,897	15,183	4.92%	Higher
Norfolk County	24,200	4,823	48.2	Lower	908,217	104,945	5,420	5.16%	Higher
Plymouth County	21,568	4,139	56	Higher	500,765	62,592	4,682	7.48%	Higher
Suffolk County	50,032	7,845	69.2	Lower	2,020,413	213,091	9,170	4.30%	Higher
Worcester County	37,915	7,708	65.6	Lower	1,092,678	114,550	8,588	7.50%	Higher
Unknown ³	928	196	*	*	188,056	18,219	206	*	*
State	322,652	61,603	63.2	Lower	10,399,569	1,170,158	71,906	6.14%	Higher

Data are current as of 11:59pm on 12/22/2020;

¹Number of new cases occurring over the current two-week period (12/6/2020 – 12/19/2020) compared to the previous two-week period (11/29/2020 – 12/12/2020). **Higher**=number of new cases in the current two-week period higher than the number of new cases during the last two-week period. **Lower**=number of new cases in the current two-week period lower than number of new cases during the last two-week period. **No change**=number of new cases in current two-week period is equal to the number of new cases during the last two-week period.

²Change in percent positivity compared to the previous week's (12/16/2020) report. **No Change**= <0.10% difference in the percent positivity.

³Address information for these cases is currently being obtained. DPH calculates rates per 100,000 population using denominators estimated by the University of Massachusetts Donahue Institute using a modified Hamilton-Perry model (Strate S, et al. Small Area Population Estimates for 2011 through 2020, report, Oct 2016.)

Please note: Data for these tables are based on information available in the DPH surveillance database at a single point in time. Case counts for specific cities and towns change throughout the day as data cleaning occurs (removal of duplicate reports within the system) and new demographic information (assigning cases to their city or town of residence) is obtained.

Active COVID Clusters by Exposure Setting Type for the Period 11/22/20 to 12/19/20 (as of 12/24/20)

Source: <https://www.mass.gov/info-details/covid-19-response-reporting>. Tabulation: V. Harik, Barnstable County DHS

Sorted by Number of Cases in New Cluster Settings

Rank	Exposure Setting	New Clusters			Ongoing Clusters			Total		
		(Identified 11/22/20 – 12/19/20)			(Cluster Identified Prior to 11/22 But Not Meeting Criteria for Closing)					
		Clusters	Confirmed Cases	Close Contacts	Clusters	Confirmed Cases	Close Contacts	Clusters	Confirmed Cases	Close Contacts
1	Household	18,163	46,534	—	8,302	4,657	—	26,465	51,191	—
2	Long Term Care Facilities	131	1,172	—	195	2,305	—	326	3,477	—
3	Child Care	146	434	604	142	89	244	288	523	848
4	Senior Living	51	381	32	59	278	178	110	659	210
5	Social Gatherings	52	317	78	37	5	16	89	322	94
6	Restaurants & Food Courts	31	249	57	49	18	20	80	267	77
7	24/7 Congregate Settings	39	180	47	67	112	52	106	292	99
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9	K-12 Schools	36	150	290	55	61	67	91	211	357
10	Industrial Settings	23	137	57	59	145	50	82	282	107
11	Other Healthcare	21	115	55	24	22	16	45	137	71
12	Other Workplaces	21	113	44	27	40	35	48	153	79
13	Corrections	4	63	3	16	1,004	126	20	1,067	129
14	Places of Worship	6	60	5	15	2	1	21	62	6
15	Colleges & Universities	8	57	15	32	19	2	40	76	17
16	Retail & Services	19	57	26	18	12	8	37	69	34
17	Organized Athletics/Camps	12	50	134	22	14	100	34	64	234
18	Other Food Establishments	6	26	22	14	27	1	20	53	23
19	Recreation/Cultural	4	20	5	5	6	.	9	26	5
20	Offices	4	10	2	11	1	.	15	11	2
21	Shelters	1	4	.	5	3	.	6	7	.
22	Other	.	.	.	8	1	.	8	1	.
23	Travel & Lodging	.	.	.	3	.	.	3	.	.
	TOTAL	18,797	50,283	1,497	9,192	9,013	977	27,989	59,296	2,474
New Clusters: Clusters with the first case (indicated by the first positive lab result) identified during the four week period 11/22 – 12/19/2020										
Ongoing Clusters: Clusters with the first case identified prior to 11/22 that has not met criteria to be closed. Confirmed cases included in ongoing clusters occurred between 11/22 and 12/19 but are associated with a cluster that began prior to 11/22. Close contacts included in ongoing clusters occurred between 11/22 and 12/19 but are associated with a cluster that began prior to 11/22/20.										
Closed Clusters: A cluster is closed after 28 days have passed since the last confirmed case; 21,570 clusters are closed, 111,652 cases are associated with closed clusters.										

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